Appendix B

Biographical Sketches of Committee Members

Robert L. Cattoi (chair) is a retired senior vice president of research, engineering and manufacturing processes at Rockwell International Corporation. In November 1991, Mr. Cattoi was appointed chairman of the U.S. delegation to the International Steering Committee on Intelligent Manufacturing Systems (IMS) the goal of which to systematize, standardize, and develop manufacturing science and technology to provide a basis for agile and intelligent manufacturing systems in the twenty-first century. Mr. Cattoi earned a B.S. in electrical engineering from the University of Wisconsin. He also is a registered professional engineer in the state of Texas and a member of the National Society of Professional Engineers.

Noel Longuemare (vice chair) is a private consultant. In his tenure at the U.S. Department of Defense (DoD) he was Principal Deputy Under Secretary of Defense for Acquisition and Technology for four years and Acting Under Secretary of Defense for Acquisition and Technology for two six-month periods. He was responsible for all matters relating to DoD acquisition. Mr. Longuemare was a corporate vice president and general manager of the Systems Development and Technology Divisions, Westinghouse Electronic Systems Group where he played a leading role in the development of modern radar and avionics systems for airborne and land-mobile applications. He is a fellow of the Institute of Electrical and Electronics Engineers (IEEE) and the American Association for the Advancement of Science (AAAS) and an associate fellow of the American Institute of Aeronautics and Astronautics (AIAA). A registered engineer in Maryland, Mr. Longuemare graduated from the University of Texas-El Paso with a B.S.E.E., Johns Hopkins University with an M.S.E., and the Stanford University Executive Program.

Henry P. Arnold is the president of BF Goodrich Aerospace, Fuel and Utility Systems, headquartered in Vergennes, Vermont. He received an undergraduate degree in electrical engineering from Seattle University in 1972, an M.B.A. from Seattle University in 1985, and an Executive M.B.A. from Massachusetts Institute of Technology in 1989. In his 25 years at Boeing Commercial Airplane Group, he rose to the position of executive vice president of airplane development and definition. He also served as chief project engineer for the 737 Next Generation Program and director of commercial avionics systems. His areas of expertise include product development and program management.

William C. Bowes is vice president of programs management for Litton Industries' integrated systems division. He received a B.S. in chemical engineering from the University of Idaho and an M.S. from the Naval Postgraduate School, Monterey. He also graduated from the U.S. Navy Test Pilot School. While in the

Navy, he was promoted to the rank of vice admiral and served as the commander of the Naval Air Systems Command and Principal Deputy Assistant Secretary of the Navy (RD&A). His areas of expertise include naval-aviation systems engineering, life-cycle management, and program management. He is a member of AIAA, Society of Experimental Test Pilots, Association of Unmanned Aerial Vehicle International and Association of Naval Aviation. His expertise is in military support (operations and maintenance).

Stephen N. Buss is the manager of sustainment initiatives for the Electronics Sensors and Systems Sector of Northrop Grumman Corporation. He is a recognized leader in parts obsolescence and diminishing manufacturing sources strategies, corporate program manager for the Defense Microelectronics Activity Advanced Technology Support Program, and program manager for an Air Force program investigating the use of commercially manufactured electronics in military weapons systems. He is also the program manager for the Common Circuit-Card Assembly Program, a proof of concept program targeted at developing a generic circuit card that can be programmed to perform functions of many obsolete boards. Since 1991, he has proactively created and implemented best practices for component engineering and component procurement and assisted in the implementation of a component-supplier management system. He was an original member of the DoD Producability and Supportability Working Group and the spin-off teaming group. He was committee chair for the Air Force Research Laboratory Diminishing Manufacturing Sources and Material Shortages Hub Users Group Subcommittee, and a member of a consortium for the Aging Avionics/Electronics Initiative. He has a B.S. in business administration from Towson State University. Mr. Buss has made numerous presentations on diminishing manufacturing sources and mitigation of parts obsolescence.

John D. Cosgrove retired from Rockwell Collins in 1999, where he was president of the company, as well as a corporate officer and senior vice president of Rockwell International. Previous to that, he had been president of Collins Avionics and Communications Division. Mr. Cosgrove was a member of the National Security Telecommunications Advisory Committee and a member of the Armed Forces Communications and Electronics Association. He has a B.S. in electrical engineering from Iowa State University and is a member of the Iowa State University Foundation's Board of Governors. His expertise is in electronics and electrical/industrial engineering.

Frederick H. Dill, a member of the National Academy of Engineering (NAE), is a member of the senior technical staff for the IBM T.J. Watson Research Center. He received his Ph.D. in electrical engineering from Carnegie Institute of Technology in 1958 and was elected to the NAE in 1990 for his pioneering accomplishments in microelectronics technology. As a member of the technical staff for IBM Corporation Research Division from 1958 to 1963 working on exploratory devices, he built the first tunnel diodes and injection lasers in IBM and is the part owner of IBM patent for the injection laser. He was IBM Research Division Manager of high-speed integrated circuit research from 1963 to 1968. This program pitted germanium with its higher mobilities against silicon technology. Following a year as visiting lecturer at University of California, Berkeley, senior and graduate courses, he was manager of IBM Research Division groups working on optical lithography and semiconductor process measurement. Mr. Dill served as IBM Corporation Research Division Senior Member of the Technical Staff working on application of computers in semiconductor manufacturing, factory floor control systems, and multitool process control loops. Mr. Dill is an acknowledged leader in the field of microelectronics technology and engineering science.

Llewellyn S. Dougherty is the director for technology for Raytheon Systems Company. He has served in other areas of the company, including sensors and communications, radar systems and reconnaissance systems. Previous to Raytheon, he was technical assistant to the Director of the Defense Advanced Research Programs Agency (DARPA). His areas of expertise include avionics, digital computers, software, systems engineering and systems safety. A member of IEEE, he earned a B.S. in astronautics and engineering sciences from the U.S. Air Force Academy, an M.S. in aeronautics and astronautics from Massachusetts Institute of Technology, and a Ph.D. in digital systems engineering from the Air Force Institute of Technology.

Valerie J. Gawron is a Level 5 (world-class) engineer at Veridian Engineering Flight Research Group. Her experience in engineering psychology and human factors covers the areas of design, research, simulation,

and training. She has produced numerous simulation programs and training manuals to improve aviation. She is a member of the Aerial Space Human Factors Association, Aerial Space Medical Association, and Association of Aviation Psychologists, an associate fellow of the AIAA, and a fellow of the Human Factors and Ergonomics Society. She has a B.A. in psychology, an M.S. in industrial engineering, an M.B.A. from the State University of New York at Buffalo, an M.A. in psychology from the State University College at Geneseo, and a Ph.D. in psychology from the University of Illinois. She has taught at New Mexico State University, University of Illinois, and State University College at Geneseo. Her expertise is in human factors and avionics testing.

David R. Heebner, a member of the NAE, is the proprietor of Heebner Associates. In 1992, he retired from Science Applications International Corporation (SAIC) and became a private consultant. While at SAIC, Mr. Heebner was executive vice-president and vice chairman of the Board of Directors and supervised a multigroup organization that included both the Military Sciences Group and the Information Systems Group. Before joining SAIC, he was deputy director for tactical warfare programs under the Director of Defense Research and Engineering at DoD. Prior to that, Mr. Heebner spent more than 16 years with Hughes Aircraft Company. He currently serves on several boards of directors, has chaired the Naval Studies Board of the National Research Council, and is an active member of the Defense Science Board. He received a B.S. in electrical engineering from Newark College of Engineering and an M.S. in electrical engineering from the University of Southern California. His expertise is in military procurements and controls.

Ellis F. Hitt is a senior manager for Battelle Corporation and the chairman of the AIAA Digital Avionics Technical Committee. He has a B.S. in electrical engineering from the University of Kansas, an M.S. in electrical engineering from the Air Force Institute of Technology, and pursued post graduate studies from Ohio State University and the University of New Mexico. Mr. Hitt is a nationally recognized authority on avionics and flight control systems. He has extensive experience in conceptual, preliminary, and final design of avionics, including navigation, guidance, control, communications, controls and displays, sensors, stores management, weapons delivery, and electrical power subsystems; integration, testing, and analysis of avionics; development of mathematical models and computer programs for performing error analysis, systems simulation and evaluation, and life-cycle cost analyses; mission software design, development, validation, and verification. Mr. Hitt's current responsibilities include senior marketing manager for the Air Force market sector and technical leader on total ownership cost.

Andrew J. Kornecki graduated from the University of Mining and Metallurgy in Krakow, Poland, with an M.S.E.E. and Ph.D. in system engineering. He is currently a professor in the Department of Computing and Mathematics of Embry Riddle Aeronautical University (ERAU) in Daytona Beach, Florida. His areas of expertise include software construction for real-time, embedded, safety critical systems, computer simulation and aviation software, and control and computer engineering.

Rocky J. Porzio has worked for Federal Systems for more than 30 years, where he has been involved in virtually all major elements of systems integration. He is currently the director of avionics systems engineering, responsible for the technical performance of fixed and rotary wing aircraft and technology programs. He has served the company in a variety of positions, including chief engineer and acting director of new business pursuits. He received a B.S.E.E. from the University of Detroit.

George W. Sutton is currently a principal engineer for ANSER Corporation, supporting the Ballistic Missile Defense Organization/Air Force Space-Based Laser Project. He received a B.S.M.E. from Cornell University, an M.S.M.E. from California Institute of Technology, and a Ph.D. in mechanical engineering and physics from California Institute of Technology. He was elected to the NAE in 1994 for contributions to ballistic missile reentry, lasers, medical devices, imaging systems, and aerooptics. He is a member of ASME and a fellow of AIAA. His awards and honors include: U.S. Air Force Outstanding Service Award, 1965; Arthur D. Flemming Award, 1965; Fellow, AAAS; Fellow, AIAA; Thermophysics Medal, AIAA, 1980; and AIAA Outstanding Achievement Award, 1990. He

is an exceptionally knowledgeable generalist in aerospace engineering.

William G.T. Tuttle, Jr., General, U.S. Army (retired), has been president and chief executive officer of the nonprofit Logistics Management Institute since January 1993. As the Army's senior logistician, General Tuttle led 100,000 soldiers and civilians of the U.S. Army Materiel Command from 1989 until his retirement early in 1992, a period encompassing Operation Just Cause in Panama, Operation Desert Shield, and Operation Desert Storm. General Tuttle also commanded the U.S. Army Logistics Center (now the Combined Arms Support Command), the U.S. Army Operational Test and Evaluation Agency, the Eastern Area of the Military Traffic Management Command, and both the Support Command and Supply and Transport Battalion of the 3d Armored Division in Germany. He served in the Pentagon as the Army's Director of Force Management and at Supreme Headquarters Allied Powers Europe as Chief of Policy and Programs Branch and representative to NATO's Defense Review Committee. A graduate of the U.S. Military Academy, General Tuttle earned an M.B.A. from Harvard University.

Rayford B. Vaughn, Jr. is an associate professor of computer science at Mississippi State University, where he teaches graduate and undergraduate courses in software engineering and computer security. Previously, he was vice president, Military Integration Systems, for Electronic Data Systems (EDS) Corporation, McLean, Virginia, where he had full responsibility for all EDS contractual programs and support provided to the Defense Information Systems Agency and its customers.

Brian T. Wright is presently vice president of integrated architectures for Rockwell Collins. Prior to his present position, he was vice president of engineering for the Collins Avionics and Communications Division of Rockwell and vice president and director of engineering at ITT Aerospace and Communications Division. He has extensive experience in telecommunications, including circuit and message switching, secure voice processing, COMSEC equipment, and tactical combat net radios. Mr. Wright has a B.S. from Auburn University and an M.S. from the Naval Postgraduate School.